

## Claims

We claim:

1. A cellular data communication interfacing apparatus, for association with a first mobile network and for supporting cellular data communication to roaming mobile telephony devices, said roaming telephony devices being associated with respective home networks and with respective service profiles specifying service networks providing data services to said device, said apparatus comprising:
  - a data request analyzer, for analyzing requests for data services from said roaming mobile devices;
  - a service network selector associated with said data request analyzer, for using said request analyses together with respective service profiles to select a corresponding service network; and
  - an interfacing engine associated with said service network selector, for introducing said roaming mobile devices to said identified service networks, for directing said data requests to network servers of said service networks, and for directing corresponding data responses from network servers of said service networks to said requesting roaming mobile devices.
2. A cellular data communication interfacing apparatus according to claim 1, wherein said data communication comprises circuit switched data (CSD) communication.

3. A cellular data communication interfacing apparatus according to claim 1, wherein said data communication comprises General Packet Radio Service (GPRS) communication.
4. A cellular data communication interfacing apparatus according to claim 1, said interfacing apparatus having a link to a supporting interfacing apparatus on at least one of said service networks.
5. A cellular data communication interfacing apparatus according to claim 1, wherein said mobile device comprises one of a group comprising: a mobile telephone, a portable computer, and a personal digital assistant (PDA).
6. A cellular data communication interfacing apparatus according to claim 1, wherein said mobile device comprises one of a group of devices comprising: wireless application protocol (WAP), MHTML, CHTML, and SHTML devices.
7. A cellular data communication interfacing apparatus according to claim 1, wherein said mobile device is operable to perform CSD communication.
8. A cellular data communication interfacing apparatus according to claim 1, wherein said data request analyzer comprises:

a device identifier, for identifying from at least one parameter received with a data request from said mobile device a respective identity of said mobile device; and

a data service determiner for determining from at least one parameter received with said data request a respective data service requested by said mobile device.

9. A cellular data communication interfacing apparatus according to claim 8, wherein said interfacing engine comprises:

an introducer, for introducing said mobile device to said selected service network; and

a data communication manager, for managing data communication between said mobile device and network servers.

10. A cellular data communication interfacing apparatus according to claim 9, wherein data communication between said mobile device and a service network which allocates a private network address are performed with network address translation, and wherein data communication between said mobile device and a service network which does not allocate a private network address are performed without network address translation, and wherein said interfacing engine further comprises a network address translator comprising:

a visited network address determiner, for determining a visited network address allocated to a mobile device by said first mobile network;

a service network address determiner, for determining a service network address allocated to said mobile device by said service network; and  
a readdresser, for replacing an originating network address of a data request with said service network address and for replacing a destination network address of a data response with said visited network address.

11. A cellular data communication interfacing apparatus according to claim 8, wherein said service network selector comprises a service profile locator for using said respective identity to locate said respective service profile.

12. A cellular data communication interfacing apparatus according to claim 8, wherein said device identifier is operable to identify said device from at least one of the following group of parameters: Mobile Station International Subscriber Directory Number (MSISDN), mobile device home page, access point name (APN), and calling line identifier (CLI).

13. A cellular data communication interfacing apparatus according to claim 1, wherein said service network selector is further operable to select said corresponding service network according to an identity of said interfacing apparatus.

14. A cellular data communication interfacing apparatus according to claim 1, wherein said service network selector is further operable to select said corresponding service network according to a current location of said device.

15. A cellular data communication interfacing apparatus according to claim 8, wherein said service network selector is further operable to identify a service network authorization server.

16. A cellular data communication interfacing apparatus according to claim 15, wherein said introducer is further operable to query said service network authorization server to authorize said data service request.

17. A cellular data communication interfacing apparatus according to claim 9, wherein said introducer is further operable to perform accounting functions.

18. A cellular data communication interfacing apparatus according to claim 8, wherein said device identifier further comprises a home network identifier to identify a respective home network of said mobile device.

19. A cellular data communication interfacing apparatus according to claim 18, wherein said home network identifier is operable to identify said respective home network from at least one of the following group of parameters:

MSISDN, mobile device home page, APN, and CLI.

20. A cellular data communication interfacing apparatus according to claim 18, wherein said device identifier is further operable to identify a home authorization server associated with said respective home network of said device.

21. A cellular data communication interfacing apparatus according to claim 20, wherein said introducer is further operable to query said home authorization server to authenticate said mobile communication device.

22. A cellular data communication interfacing apparatus according to claim 15, wherein said service network authorization server comprises a Radius server.

23. A cellular data communication interfacing apparatus according to claim 1, wherein said interfacing apparatus further comprises a visitor database for storing properties associated with said mobile device.

24. A cellular data communication interfacing apparatus according to claim 23, wherein at least some of said properties comprise said service profiles.

25. A cellular data communication interfacing apparatus according to claim 24, wherein said service network selector is operable to use service profile information from said database.

26. A cellular data communication interfacing apparatus according to claim 23, wherein said properties comprise at least one of the following group of properties: visited network name, visited network location, home network address, visited network address, service network address, community profiles, and a user profile.

27. A cellular data communication interfacing apparatus according to claim 1, wherein said service profile comprises a user profile associated with said device.

28. A cellular data communication interfacing apparatus according to claim 27, wherein said user profile comprises user specified data service networks.

29. A cellular data communication interfacing apparatus according to claim 9, wherein said data communication manager comprises a session manager operable to create and terminate a data communication session.

30. A cellular data communication interfacing apparatus according to claim 9, wherein said data communication manager comprises a network address allocator for allocating a visited network address to said mobile device.

31. A cellular data communication interfacing apparatus according to claim 9, wherein said data communication manager is further operable as a router.

32. A cellular data communication interfacing apparatus according to claim 31, wherein said data communication manager is further operable to perform location and identity based routing of said data communication.

33. A cellular data communication interfacing apparatus according to claim 9, wherein said data communication manager comprises a quality of service manager for managing quality of service.

34. A cellular data communication interfacing apparatus according to claim 9, wherein said data communication manager comprises a billing manager for managing billing.

35. A cellular data communication interfacing apparatus according to claim 9, wherein said data communication manager comprises a network protocol converter for converting a network protocol of said data communication



between Wireless Transaction Protocol (WTP) and HyperText Transfer Protocol (HTTP).

36. A cellular data communication interfacing apparatus according to claim 9, wherein said data communication manager comprises a network protocol converter for converting a data request having an incompatible protocol into a predetermined network protocol.

37. A cellular data communication interfacing apparatus according to claim 9, wherein said data communication manager comprises a telephony protocol converter for converting a preliminary data request having a CSD transport IP protocol to local area network (LAN) IP protocol.

38. A cellular data communication interfacing apparatus according to claim 9, wherein said data communication manager comprises a rerouter for rerouting a preliminary data request having a mobile telephony protocol to a mobile telephony node operable to convert said preliminary data request into a data request having a predetermined network protocol and to return said data request to said interfacing apparatus.

39. A cellular data communication interfacing apparatus according to claim 38, wherein said mobile telephony protocol comprises CSD and said mobile telephony node comprises a Remote Access Server (RAS).

40. A cellular data communication interfacing apparatus according to claim 1, further comprising a mobile device configurer for configuring mobile telephony devices.

41. A cellular data communication interfacing apparatus according to claim 40, wherein said mobile device configurer is operable to configure said device with an access code for directing data requests to said interfacing apparatus.

42. A cellular data communication interfacing apparatus according to claim 41, wherein said access code comprises one of a group comprising: a WAP short code, an APN, a country code, a corporate code, an identity based code, and a network address.

43. A cellular data communication interfacing apparatus according to claim 1, wherein a network server of a service network is located within a corporate network.

44. A cellular data communication interfacing apparatus according to claim 1, wherein a network server of a service network is located within a private network.

45. A cellular data communication interfacing apparatus according to claim 1, wherein a network server of a service network is located within the Internet.

46. A cellular data communication interfacing apparatus according to claim 1, wherein a format of at least one of said data requests comprises one of a group comprising: WAP data, standard data, and secure data.

47. A cellular data communication interfacing apparatus according to claim 1, wherein a format of at least one of said data requests comprises IP data.

48. A cellular data communication interfacing apparatus according to claim 1, wherein said interfacing apparatus further comprises a visitor portal operable to direct said mobile device to a visitor portal page associated with said device.

49. A cellular data communication interfacing apparatus according to claim 48, said visitor portal comprising:  
a page generator for generating said visitor portal pages; and  
an interface for directing said devices to said visitor portal pages.

50. A cellular data communication interfacing apparatus according to claim 48, wherein said visitor portal is operable to direct said mobile device to said visitor portal page upon initiation of a data session by said device.

51. A cellular data communication interfacing apparatus according to claim 48, wherein said visitor portal is operable to generate said associated visitor portal page in accordance with a current location of said device.

52. A cellular data communication interfacing apparatus according to claim 51, wherein said current location is determined by parameters associated with said first mobile network.

53. A cellular data communication interfacing apparatus according to claim 51, wherein said current location is determined by parameters associated with said interfacing apparatus.

54. A cellular data communication interfacing apparatus according to claim 48, wherein said visitor portal is operable to generate said associated visitor portal page in accordance with said first network.

55. A cellular data communication interfacing apparatus according to claim 48, wherein said visitor portal is operable to generate said associated visitor portal page in accordance with said respective home network of said device.

56. A cellular data communication interfacing apparatus according to claim 48, wherein said visitor portal is operable to generate said associated visitor

portal page in accordance with said respective service profile associated with said device.

57. A cellular data communication interfacing apparatus according to claim 48, wherein said visitor portal page contains links to at least one of a group comprising: bookmark requests, a mobile device home page, a home network page, a first mobile network page, a location based page, an Internet access page, a corporate access page, a search engine, and an e-mail service.

58. A cellular data communication interfacing apparatus according to claim 1, wherein said data services comprise at least one of the following group of services: commercial services, emergency services, e-mail, native language customer assistance, global short code access, bookmark access, and short message service.

59. A cellular data communication interfacing apparatus according to claim 1, wherein said selected service network comprises said first mobile network.

60. A cellular data communication interfacing apparatus according to claim 1, wherein said selected service network comprises a respective home mobile network of said mobile device.

61. A mobile cellular communication device having a home cellular network and being able to roam other networks, said mobile device being associated with a service profile specifying service networks providing data services to said device, wherein said mobile device is configured to direct roaming data communications whilst roaming a respective one of said other networks to a preselected data interface of said respective network, thereby to make connections to user-selected data services, said interface being selected to analyze requests for data services from said mobile device, to use said request analyses together with said service profile to select a corresponding service network, to introduce said mobile device to said identified service networks, to direct said data requests to network servers of said service networks, and to direct corresponding data responses from network servers of said service networks to said mobile device.

62. A mobile cellular communication device according to claim 61, wherein said data communication comprises CSD communication.

63. A mobile cellular communication device according to claim 61, wherein said data communication comprises GPRS communication.

64. A mobile cellular communication device according to claim 61, said configuration being enterable at manufacture of said device.

65. A mobile cellular communication device according to claim 61, said configuration being enterable upon roaming access to a network.

66. A mobile cellular communication device according to claim 61, said configuration being remotely applicable.

67. A mobile cellular communication device according to claim 66, wherein a configuration of said device is remotely entered by said respective network, thereby to enable said device to direct roaming data communications to said data interface upon logon of said device to said respective network.

68. A mobile cellular communication device according to claim 61, said device being configured with a predetermined access code for directing data requests to said interfacing apparatus.

69. A mobile cellular communication device according to claim 61, wherein said mobile device is operable to direct said data requests to said interface by outputting a predetermined access code.

70. A mobile cellular communication device according to claim 69, wherein said predetermined access code comprises one of a group of codes comprising: a predetermined access address, a predetermined APN, a WAP short code, a country code, a corporate code, an identity based code, and a network code.

71. A mobile cellular communication device according to claim 61, wherein said mobile device comprises one of a group comprising: a mobile telephone, a portable computer, and a PDA.

72. A mobile cellular communication device according to claim 61, further comprising support for a WAP compatible device.

73. A mobile cellular communication device according to claim 72, wherein said WAP compatible device comprises one of a group of devices comprising: WAP, MHTML, CHTML, and SHTML devices.

74. A mobile cellular communication device according to claim 72, comprising functionality to perform CSD communication.

75. A network having home mobile devices and able to allow connections with non-home mobile devices, the network having a data interface for supporting data communication involving said non-home devices, said non-home devices being associated with respective home networks and with respective service profiles specifying service networks providing data services to said non-home devices, said data interface comprising:  
a data request analyzer, for analyzing requests for data services from said non-home mobile devices;



a service network selector associated with said data request analyzer, for using said request analyses together with respective service profiles to select a corresponding service network; and  
an interfacing engine associated with said service network selector, for introducing said non-home mobile devices to said identified service networks, for directing said data requests to network servers of said service networks, and for directing corresponding data responses from network servers of said service networks to said requesting non-home mobile devices.

76. A network according to claim 75, wherein said data communication comprises CSD communication.

77. A network according to claim 75, wherein said data communication comprises GPRS communication.

78. A network according to claim 75, said interface having a link to a supporting interface on at least one of said service networks.

79. A network according to claim 75, wherein said data request analyzer comprises:

a device identifier, for identifying from at least one parameter received with a data request from said non-home mobile device a respective identity of said non-home mobile device; and

a data service determiner for determining from at least one parameter received with said data request a respective data service requested by said non-home mobile device.

80. A network according to claim 79, wherein said interfacing engine comprises:

an introducer, for introducing said non-home mobile device to said selected service network; and

a data communication manager, for managing data communication between said respective device and network servers.

81. A network according to claim 80, wherein data communication between said respective mobile device and a service network which allocates a private network address are performed with network address translation, and wherein data communication between said respective mobile device and a service network which does not allocate a private network address are performed without network address translation, and wherein said interfacing engine further comprises a network address translator comprising:

a visited network address determiner, for determining a visited network address allocated to a respective non-home mobile device by said network;

a service network address determiner, for determining a service network address allocated to said respective mobile device by said service network; and

a readdresser, for replacing an originating network address of a data request with said service network address and for replacing a destination network address of a data response with said visited network address.

82. A network according to claim 79, wherein said data service determiner is further operable to identify a service network authorization server.

83. A network according to claim 82, wherein said introducer is further operable to query said service network authorization server to authorize said data service request.

84. A network according to claim 75, wherein said data interface further comprises a visitor database for storing properties associated with said respective mobile device.

85. A network according to claim 84, wherein at least some of said properties comprise said service profiles.

86. A network according to claim 79, wherein said device identifier is operable to identify said mobile device from at least one of the following group of parameters: MSISDN, mobile device home page, APN, and CLI.

87. A network according to claim 80, wherein said data communication manager comprises a session manager operable to create and terminate a data communication session.

88. A network according to claim 80, wherein said data communication manager is further operable as a router.

89. A network according to claim 88, wherein said data communication manager is further operable to perform location and identity based routing of said data communication.

90. A network according to claim 80, wherein said data communication manager comprises a quality of service manager for managing quality of service.

91. A network according to claim 80, wherein said data communication manager comprises a billing manager for managing billing.

92. A network according to claim 80, wherein said data communication manager comprises a network protocol converter for converting between WTP and HTTP.

93. A network according to claim 80, wherein said data communication manager comprises a network protocol converter for converting a data request having an incompatible protocol into a predetermined network protocol.

94. A network according to claim 80, wherein said data communication manager comprises a rerouter for rerouting a preliminary data request having a mobile telephony protocol to a mobile telephony node operable to convert said preliminary data request into a data request having a predetermined network protocol and to return said data request to said data interface.

95. A network according to claim 75, further comprising a mobile device configurer for configuring mobile telephony devices.

96. A network according to claim 95, wherein said mobile device configurer is operable to configure a mobile telephony device with an access code for directing data requests to said interfacing apparatus.

97. A network according to claim 75, wherein said data interface further comprises a visitor portal operable to direct said mobile device to a visitor portal page associated with said device.

98. A network according to claim 97, said visitor portal comprising:  
a page generator for generating said visitor portal pages, and

an interface for directing said devices to said associated visitor portal pages.

99. A network according to claim 97, wherein said visitor portal is operable to generate said associated visitor portal page in accordance with at least one of the following: a service profile associated with said device, a respective home network of said device, said network, and a user profile associated with said device.

100. A network according to claim 97, wherein said visitor portal is operable to direct said respective mobile telephony device to said visitor portal upon initiation of a data session by said device.

101. A network according to claim 97, wherein said visitor portal page contains links to at least one of a group comprising: bookmark requests, a respective device home page, a home network page, a network page, a location based page, an Internet access page, a corporate access page, a search engine, and an e-mail service.

102. A network according to claim 75, wherein said data services comprise at least one of the following group of services: commercial services, emergency services, email, native language customer assistance, global short code access, bookmark access, and short message service.

103. A system for supporting roaming data communication, said system comprising a network having home users and non-home users and a data interface, said interface being operable to support data communication between one of said non-home users having a roaming mobile device and a requested data service, said roaming mobile device being associated with a home network and with a service profile specifying service networks providing data services to said device, wherein said interface comprises:

a data request analyzer, for analyzing requests for data services from said mobile device;

a service network selector associated with said data request analyzer, for using said request analyses together with said service profile to select a corresponding service network; and

an interfacing engine associated with said service network selector, for introducing said mobile device to said identified service networks, for directing said data requests to network servers of said service networks, and for directing corresponding data responses from network servers of said service networks to said mobile devices.

104. A network according to claim 103, wherein said data communication comprises CS10 communication.

105. A network according to claim 103, wherein said data communication comprises GPRS communication.

106. A network according to claim 103, said interface having a link to a supporting interface on at least one of said service networks network.

107. A system for supporting roaming data communication according to claim 103, wherein said data request analyzer comprises:

a device identifier, for identifying from at least one parameter received with a data request from said roaming mobile device a respective identity of said roaming mobile device; and

a data service determiner for determining from at least one parameter received with said data request a respective data service requested by said roaming mobile device.

108. A system for supporting roaming data communication according to claim 103, wherein said interfacing engine comprises:

an introducer, for introducing said roaming mobile device to said selected service network; and

a data communication manager, for managing data communication between said roaming mobile device and network servers.

109. A system for supporting roaming data communication according to claim 108, wherein data communication between said roaming mobile device and a service network which allocates a private network address are performed with



network address translation, and wherein data communication between said roaming mobile device and a service network which does not allocate a private network address are performed without network address translation, and wherein said interfacing engine further comprises a network address translator comprising:

a visited network address determiner, for determining a visited network address allocated to said mobile device by said network;

a service network address determiner, for determining a service network address allocated to said mobile device by said service network; and

a readdresser, for replacing an originating network address of a data request with said service network address and for replacing a destination network address of a data response with said visited network address.

110. A system for supporting roaming data communication according to claim 107, wherein said service network selector is further operable to identify a service network authorization server of said roaming mobile device.

111. A system for supporting roaming data communication according to claim 110, wherein said introducer is further operable to query said service network authorization server to authorize said data communication.

112. A system for supporting roaming data communication according to claim 108, wherein said data interface further comprises a visitor database for storing properties associated with said mobile device.

113. A system for supporting roaming data communication according to claim 112, wherein at least some of said properties comprise said service profiles.

114. A system for supporting roaming data communication according to claim 107, wherein said device identifier is operable to identify said mobile device from at least one of the following group of parameters: MSISDN, mobile device home page, APN, and CLI.

115. A system for supporting roaming data communication according to claim 108, wherein said data communication manager comprises a session manager operable to create and terminate a data communication session.

116. A system for supporting roaming data communication according to claim 108, wherein said data communication manager is further operable as a router.

117. A system for supporting roaming data communication according to claim 116, wherein said data communication manager is further operable to perform location and identity based routing of said data communication.

118. A system for supporting roaming data communication according to claim 108, wherein said data communication manager comprises a quality of service manager for managing quality of service.

119. A system for supporting roaming data communication according to claim 108, wherein said data communication manager comprises a billing manager for managing billing.

120. A system for supporting roaming data communication according to claim 108, wherein said data communication manager comprises a network protocol converter for converting between WTP and HTTP.

121. A system for supporting roaming data communication according to claim 108, wherein said data communication manager comprises a network protocol converter for converting a data request having an incompatible protocol into a predetermined network protocol.

122. A system for supporting roaming data communication according to claim 108, wherein said data communication manager comprises a rerouter for rerouting a preliminary data request having a mobile telephony protocol to a mobile telephony node operable to convert said preliminary data request into a data request having a predetermined network protocol and to return said data request to said data interface.

123. A system for supporting roaming data communication according to claim 103, further comprising a mobile device configurer for configuring mobile telephony devices.

124. A system for supporting roaming data communication according to claim 123, wherein said mobile device configurer is operable to configure a mobile telephony device with an access code for directing data requests to said interfacing apparatus.

125. A system for supporting roaming data communication according to claim 103, wherein said data interface further comprises a visitor portal operable to direct said mobile device to a visitor portal page associated with said device.

126. A system for supporting roaming data communication according to claim 125, wherein said visitor portal comprises:  
a page generator for generating said visitor portal page; and  
an interface for directing said device to said visitor portal page.

127. A system for supporting roaming data communication according to claim 125, wherein said visitor portal is operable to generate said visitor portal page in accordance with at least one of the following: a service profile associated

with said respective device, a home network of said respective device, said network, and a user profile associated with said device.

128. A system for supporting roaming data communication according to claim 125, wherein said visitor portal is operable to direct said respective mobile telephony device to said visitor portal upon initiation of a data session by said device.

129. A system for supporting roaming data communication according to claim 125, wherein visitor portal page contains links to at least one of a group comprising: a roaming mobile device home page, a home network page, a network page, a location based page, an Internet access page, a corporate access page, a search engine, and an e-mail service.

130. A system for roaming data communication according to claim 103, wherein said data services comprise at least one of the following group of services: commercial services, emergency services, email, native language customer assistance, global short code access, bookmark access, and short message service.

131. A visitor portal for supporting data communication from roaming mobile telephony devices, said mobile telephony devices being associated with

respective home networks and with respective service profiles, and being able to roam non-home networks, said visitor portal comprising:

a page generator for generating for said devices respective visitor portal pages according to said service profiles; and

an interface for directing said devices to said respective visitor portal pages.

132. A visitor portal according to claim 131, wherein at least some of said service profiles comprise a user profile.

133. A visitor portal according to claim 132, wherein a user profile comprises user specified data service networks.

134. A visitor portal according to claim 131, wherein a non-home network being roamed by a mobile telephony device is operable to connect said mobile telephony device to said visitor portal.

135. A visitor portal according to claim 134, wherein said non-home network is operable to connect said mobile telephony device to said visitor portal upon initiation of a data session by said mobile telephony device.

136. A visitor portal according to claim 131, wherein said mobile device comprises one of a group of devices comprising: WAP, MIITML, CHTML, and SHTML devices.

137. A visitor portal according to claim 131, wherein said mobile devices are operable to perform CSD communication.

138. A visitor portal according to claim 131, wherein said mobile devices are operable to perform GPRS communication.

139. A visitor portal according to claim 131, wherein a portal page comprises at least one link to a service network.

140. A visitor portal according to claim 131, wherein said page generator is operable to generate said respective visitor portal page in accordance with a current location of said device.

141. A visitor portal according to claim 140, wherein said current location is determined by parameters associated with a non-home network being roamed by said mobile telephony device.

142. A visitor portal according to claim 131, wherein said page generator is operable to generate said respective visitor portal page in accordance with a non-home network being roamed by said mobile telephony device.

143. A visitor portal according to claim 131, wherein said page generator is operable to generate said respective visitor portal page in accordance with said home network associated with said device.

144. A visitor portal according to claim 131, wherein said visitor portal page contains links to at least one of a group comprising: bookmark requests, a non-home user page, a mobile device home page, a home network page, a location based page, an Internet access page, a corporate access page, a search engine, and an e-mail service.

145. A visitor portal according to claim 131, comprising at least one visitor page template, and wherein said page generator is operable to generate a visitor portal page by insertion of information associated with a mobile device into one of said templates.

146. A system for supporting roaming data communication, said system comprising a network having home users and non-home users and a visitor portal for non-home users, said system being operable to connect a non-home user to said visitor portal.

147. A system for supporting roaming data communication according to claim 146, wherein said network comprises said visitor portal.



148. A system for supporting roaming data communication according to claim 146, wherein said system is operable to connect said non-home user to said visitor portal upon initiation of a data session by said user.

149. A system for supporting roaming data communication according to claim 146, wherein said visitor portal is operable to direct said non-home user to a visitor portal page associated with said device.

150. A system for supporting roaming data communication according to claim

149, said visitor portal comprising:

a page generator for generating for said visitor portal pages; and

an interface for directing said non-home user to said associated visitor portal page.

151. A system for supporting roaming data communication according to claim

150, wherein said page generator is operable to generate said associated visitor portal page in accordance with a current location of said device.

152. A system for supporting roaming data communication according to claim

151, wherein said current location is determined by parameters associated with said first mobile network.

153. A system for supporting roaming data communication according to claim 150, wherein said page generator is operable to generate said associated visitor portal page in accordance with said home network of said device.

154. A system for supporting roaming data communication according to claim 150, wherein said page generator is operable to generate said associated visitor portal page in accordance with a user profile associated with said device.

155. A system for roaming data communication according to claim 149, wherein said visitor portal page contains links to at least one of a group comprising: a non-home user page, a mobile device home page, a home network page, a location based page, an Internet access page, a corporate access page, a search engine, and an e-mail service.

156. A network for supporting roaming of mobile communication devices between at least one mobile network and at least one service network providing data services, each of said mobile communication devices having a respective home network, said network comprising interfacing links to each of said mobile networks and a roaming support unit associated with said interfacing links for providing home data of roaming devices to a respective interfacing link.

157. A network for supporting roaming of mobile communication devices according to claim 156, further comprising a database for storing properties associated with said mobile devices.

158. A network for supporting roaming of mobile communication devices according to claim 157, wherein said database is further operable to store said home data.

159. A method for supporting cellular data communication between a mobile telephony device roaming within a first network and having a home network, said mobile telephony device being associated with a service profile specifying service networks providing data services to said device, and a requested data service, said method comprising:

receiving a data request for a data service from said mobile device;

analyzing said data request to determine said data service and to identify said mobile device;

identifying a service profile associated with said identified mobile device;

using said request analysis together with said service profile to select a corresponding service network;

introducing said mobile device to said service network; and

forwarding said data request to said service network.

160. A method for supporting cellular data communication according to claim 159, wherein said data communication comprises CSD communication.

161. A method for supporting cellular data communication according to claim 159, wherein said data communication comprises GPRS communication.

162. A method for supporting cellular data communication according to claim 159, further comprising determining a service network address assigned to said mobile device by said service network.

163. A method for supporting cellular data communication according to claim 162, further comprising:  
determining if said service network address comprises a private network address; and  
if said service network address comprises a private network address,  
performing network address translation to translate an originating network address of said data request from a visited network address assigned to said mobile device by said first network to said service network address.

164. A method for supporting cellular data communication according to claim 159, wherein performing network address translation comprises:  
determining said visited network address;  
determining said service network address; and,

replacing said originating network address of said data request with said service network address.

165. A method for supporting cellular data communication according to claim

159, further comprising:

receiving a data response from a data service, said data response having a

destination network address associated with said mobile device;

determining if said destination network address comprises a private network address; and

if said destination network address comprises a private network address,

performing network address translation to translate said destination network

address from said service network address to said visited network address; and,

forwarding said data response to said mobile device.

166. A method for supporting cellular data communication according to claim

165, wherein performing network address translation comprises:

determining said visited network address;

determining said service network address; and,

replacing said destination network address of said data request with said visited network address.

167. A method for supporting cellular data communication according to claim 159, further comprising identifying a service network authorization server of said mobile device.

168. A method for supporting cellular data communication according to claim 167, wherein said service network authorization server comprises a Radius server.

169. A method for supporting cellular data communication according to claim 167, further comprising querying said service network authorization server to authorize said data request by said mobile device.

170. A method for supporting cellular data communication according to claim 159, further comprising identifying a home authorization server of said mobile device.

171. A method for supporting cellular data communication according to claim 170, further comprising querying said home authorization server to authenticate said mobile device.

172. A method for supporting cellular data communication according to claim 169, comprising querying said service network only during initiation of a data session.

173. A method for supporting cellular data communication according to claim 171, comprising querying said home network only during initiation of a data session.

174. A method for supporting cellular data communication according to claim 159, comprising determining an identity of said mobile device from at least one parameter received with said data request.

175. A method for supporting cellular data communication according to claim 174, comprising determining an identity of said device from at least one of the following group of parameters: MSISDN, mobile device home page, APN, and CLF.

176. A method for supporting cellular data communication according to claim 174, wherein said mobile device is configurable to provide said at least one parameter.

177. A method for supporting cellular data communication according to claim 159, further comprising allocating a visited network address to said mobile device.

178. A method for supporting cellular data communication according to claim 159, further comprising maintaining a visitor database for storing properties associated with said mobile device.

179. A method for supporting cellular data communication according to claim 178, wherein said properties comprise at least one of the following group of properties: visited network name, visited network location, home network address, visited network address, service network address, service profile, and a user profile.

180. A method for supporting cellular data communication according to claim 179, comprising identifying said service profile from said database.

181. A method for supporting cellular data communication according to claim 179, comprising determining an identity of said home network from said database.

182. A method for supporting cellular data communication according to claim 179, further comprising determining said home network address from said database.



183. A method for supporting cellular data communication according to claim 179, further comprising determining said visited network address from said database.

184. A method for supporting cellular data communication according to claim 159, further comprising creating a data communication session for said mobile device.

185. A method for supporting cellular data communication according to claim 159, further comprising terminating a data communication session for said mobile device.

186. A method for supporting cellular data communication according to claim 159, further comprising routing said data communication.

187. A method for supporting cellular data communication according to claim 186, wherein said routing is location and identity based.

188. A method for supporting cellular data communication according to claim 159, further comprising managing quality of service.

189. A method for supporting cellular data communication according to claim 159, further comprising managing billing.

190. A method for supporting cellular data communication according to claim 159, further comprising converting a network protocol of said data communication between WTP and HTTP.

191. A method for supporting cellular data communication according to claim 159, further comprising converting a data request having an incompatible protocol into a predetermined network protocol.

192. A method for supporting cellular data communication according to claim 159, further comprising rerouting a preliminary data request having a mobile telephony protocol to a mobile telephony node operable to convert said preliminary data request into a data request having a predetermined network protocol and to return said data request to said data interface.

193. A method for supporting cellular data communication according to claim 192, wherein said mobile telephony protocol comprises CSD and said mobile telephony node comprises a RAS.

194. A method for supporting cellular data communication according to claim 159, wherein a network server for said data service is located within a corporate network.

195. A method for supporting cellular data communication according to claim 159, wherein a network server for said data service is located within a private network.

196. A method for supporting cellular data communication according to claim 159, wherein a network server for said data service is located within the Internet.

197. A method for supporting cellular data communication according to claim 159, wherein a format of at least one of said data requests comprises one of a group comprising: WAP data, standard data, and secure data.

198. A method for supporting cellular data communication according to claim 159, further comprising connecting said mobile device to a visitor portal page associated with said mobile device.

199. A method for supporting cellular data communication according to claim 198, comprising connecting said mobile device to said visitor portal page upon initiation of a data session by said device.

200. A method for supporting cellular data communication according to claim 198, further comprising generating said associated visitor portal page.

201. A method for supporting cellular data communication according to claim 200, wherein said associated visitor portal page is generated in accordance with a current location of said mobile device.

202. A method for supporting cellular data communication according to claim 201, wherein said current location is determined by parameters associated with said first mobile network.

203. A method for supporting cellular data communication according to claim 200, comprising generating said associated visitor portal page in accordance with said home network of said device.

204. A method for supporting cellular data communication according to claim 200, comprising generating said associated visitor portal page in accordance with a service profile associated with said device.

205. A method for supporting cellular data communication according to claim 204, wherein said service profile comprises a user profile.

206. A method for supporting cellular data communication according to claim 198, wherein said visitor portal page contains links to at least one of a group comprising: bookmark requests, a mobile device home page, a home network

page, a first mobile network page, a location based page, an Internet access page, a corporate access page, a search engine, and an e-mail service.

207. A method for supporting cellular data communication according to claim 159, wherein said mobile device comprises one of a group comprising: a mobile telephone, a portable computer, and a personal digital assistant (PDA).

208. A method for supporting cellular data communication according to claim 159, further comprising configuring said mobile device.

209. A method for supporting cellular data communication according to claim 159, wherein said data services comprise at least one of the following group of services: commercial services, emergency services, email, native language customer assistance, global short code access, bookmark access, and short message service.

210. A method for supporting cellular data communication according to claim 159, wherein a service network comprises said first mobile network.

211. A method for supporting cellular data communication according to claim 159, wherein a service network comprises said home mobile network of said mobile device.